

THE U.S. DEPARTMENT OF ENERGY
MARSHALL ISLANDS MEDICAL PROGRAM
FISCAL YEAR 2001 REPORT
December 2001

The Department of Energy (DOE) Marshall Islands Medical Program continued, in this its 47th year, to provide medical surveillance for the populations of Rongelap and Utrik Atolls. The Program was implemented in 1954 by the Atomic Energy Commission following the accidental exposure of Marshallese to fallout from a nuclear test at Bikini Atoll. This report provides a summary of the special medical care program conducted on behalf of the DOE patient population during the past year.

Department of Energy (DOE)/Pacific Health Research
Institute (PHRI) Cooperative Agreement
#DE-FC03-98EH98035/A000

DOE/PHRI Special Medical Care Program in the
Republic of the Marshall Islands (RMI)

**Annual Program Progress Report under
DOE/PHRI Cooperative Agreement:
(July 15, 2000 - July 14, 2001)**

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Executive Summary

Mandate for the Report - Public Law 99-658 (November 1986) on implementation of the Compact of Free Association Act of 1985 requires that DOE provide the Committees on Appropriations of the House and Senate an annual report in December of each year on the radiological health care and logistic support program for the remaining members of the population of Rongelap and Utrik who were exposed to radiation resulting from the March 1, 1954, U.S. thermonuclear Bravo test.

Report Timing – This fiscal year (FY) 2001 report was prepared after the end of PHRI's Budget Year 3 (July 15, 2000 - July 14, 2001), and includes a review of the innovative approaches being used to provide special medical care to the mandated Rongelap and Utrik population.

Brief Summary of Report - The DOE/PHRI Special Medical Care Program in the RMI commenced its health care coverage for the mandated Rongelap and Utrik population on January 15, 1999, on Kwajalein and on January 22, 1999, on Majuro. The program provides year-round, onsite medical care to the mandated population living in the RMI and annual examinations to those patients living in Hawaii and in the continental United States.

The process of health care delivery that is utilized includes direct patient care, patient education, and onsite training of the Marshall Islands health care providers. Emphasis is also placed on cooperating with the RMI Ministry of Health and Environment (MOHE) and the 177 Health Care Program (HCP) as much as possible to positively affect the overall health of the DOE patient population, as well as the larger RMI population as a whole.

Currently, there are 118 Rongelap and Utrik patients and 91 additional DOE patients being cared for by the program. Nine (9) patients passed away and 31 patients required referrals to the tertiary care facility, Straub Clinic & Hospital, Inc., in Honolulu, Hawaii, in this year.

A nutrition education intervention program, as well as nutrition consultations, was conducted to counsel patients on good nutrition and eating habits. The Community Advisory Groups have been established to help identify the needs of the DOE patient community relative to the program, which will improve the program's ability to meet the community's needs within the bounds of the congressional mandate. Community meetings continue for all patients residing in the RMI. During this year, community meetings were also held with patients residing in Hawaii (Oahu and Maui) and in the continental U.S. Continuing medical education programs have been implemented, which are assisting in the growth and improvement of the local health care system in the RMI.

The electronic medical record (EMR) system was approved and is in the process of being installed with the necessary templates. Training sessions have been scheduled for September 2001. The EMR system will:

- Give real time access to medical records for appropriate persons at appropriate levels of security;
- Relieve program personnel from the burden of redundant paperwork located at numerous locations where the program's medical records are utilized;
- Relieve the burden of manually extracting data from paper archives in order to perform data analysis; and
- Allow the program to track the health status over time, on an aggregate as well as an individual basis, for the patient population.

This annual program progress report summarizes the delivery of the Special Medical Care to the Marshall Island DOE Patient Population of Rongelap and Utrik as conducted under the Department of Energy (DOE)/Pacific Health Research Institute (PHRI) Cooperative Agreement #DE-FC03-98EH98035/A000.¹

¹ The Principal Investigator for the DOE Special Medical Care Program is Neal A. Palafox, M.D, M.P.H. and the Co-Principal Investigator is Henry N. Preston, M.D. The Program Coordinator is Ms. Lola M. Colombe.

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**Annual Program Progress Report under
Department of Energy (DOE)/Pacific Health
Research Institute (PHRI) Cooperative Agreement
#DE-FC03-98EH98035/A000**

Title of the Project: Deliver Special Medical Care to the Marshall Islands for the P.L. 99-239 DOE Patient Population of Rongelap and Utrik

Principal Investigators: Neal A. Palafox, M.D., M.P.H.
Henry N. Preston, M.D.

Program Coordinator: Lola M. Colombe

Period Covered in this Report: July 15, 2000 – July 14, 2001

I. Introduction

The DOE Marshall Islands Medical Program continued, in this its 47th year, to provide medical surveillance for the mandated population from Rongelap and Utrik and the additional DOE patients.² The program was inaugurated in 1954 by the Atomic Energy Commission following the exposure of Marshallese to fallout from a nuclear test (Castle Bravo) at Bikini Atoll. This year marks the third year in which the program has been carried out by PHRI under a cooperative agreement with DOE.

The DOE/PHRI Special Medical Care Program, awarded the cooperative agreement on August 28, 1998, commenced its health care program on January 15, 1999, on Kwajalein and January 22, 1999, on Majuro. This report details the program for the July 15, 2000, through the July 14, 2001, period.

The program provides year-round, onsite medical care to the DOE patient population residing in the Republic of the Marshall Islands (RMI) and annual examinations to those patients living in Hawaii and in the continental United States.

II. Major Accomplishments in Year 3

- Completed 137 of 209 annual examinations (for more details, see Section III – Health Status of Population).

² DOE patient population refers to the combination of the remaining members of the population of Rongelap and Utrik who were exposed to radiation resulting from the March 1, 1954, U.S. thermonuclear “Bravo” test (the mandated population) and additional DOE patients, formerly known as control or comparison population (Marshallese individuals, not present on Rongelap or Utrik at the time of the “Bravo” test, but who roughly match the age and gender of the Rongelap and Utrik population identified in section 103(h)(1) of the Compact of Free Association Act).

- Contacted 100 percent of those patients living outside of the RMI (17 in Hawaii and 14 in the continental U.S.) for completion of their annual examinations in Hawaii.
- Conducted medical staff visits to Mejatto and Utrik to provide care (see exhibit 3).
- Provided thyroid specialist care for patients and training for the medical officers through Dr. Leonard Kryston. Dr. Kryston has agreed to provide these services on an ongoing basis. He is an endocrinologist who also provided much needed care and expertise on diabetes. Dr. Kryston also trained the medical officers (MO's) on the usage of the newly purchased handheld ultrasound machine.
- Purchased two portable thyroid ultrasound machines to provide greater access for screening and followup for the DOE patient population. One unit will be kept at each clinic and available for outer atoll trips, as well as for homebound visits.
- Conducted meetings with the Community Advisory Groups and held community meetings for patients residing in the RMI, Hawaii, and the mainland.
- Provided cross-cultural training by Dr. Paul Pedersen and William Swain to residents and faculty to raise their level of understanding on Marshallese culture and customs.
- Began implementation of an electronic medical records (EMR) system.
- Completed a household nutrition intervention program on Ebeye and Mejatto.
- Continued nutrition counseling by the Carucci/Maifeld Team.
- Continued to provide continuing medical education (CME) to RMI physicians and staff via conferences, faculty and resident lectures, websites, and e-mail.
- Provided additional medical care to non-DOE patients in the RMI via the outpatient clinics at Majuro and Ebeye Hospitals, as well as during trips to Mejatto and Utrik (2,998 encounters).

III. Health Status of Population

Participation in this medical program is strictly voluntary. Currently, there are 118 of the mandated population and 91 additional DOE patients being cared for by the program. DOE patient encounters total 1,108 visits for the year.³ Nine (9) patients passed away during this year and 31 patients have required referrals to the tertiary care facility, Straub Clinic & Hospital, Inc., in Honolulu, Hawaii (exhibit 1). The program made a concerted effort to contact each patient in

³ Encounters include patient visits for medication refills, annual examinations, lab tests, procedures, periodic check-ups and sick visits.

the DOE patient population in order to complete their annual examination. One hundred thirty-seven (137) annual examinations have been completed during this year with 48 patients needing to complete a few required tests. Twenty-four (24) patients have yet to come in for their annual examination, of which two are scheduled for August and September.

Nutritional specialists Dr. Laurence Carucci and Mary Maifeld, M.A., R.D., continue their yearly trips to the RMI to see the DOE patient population and advise them on nutrition and exercise programs to meet their health needs. Complementing them are Dr. Joel Gittelsohn and Ms. Heather Haberle of Johns Hopkins University who completed a household nutrition education intervention program for the DOE patient population residing on Ebeye and Mejatto (they completed an intervention on Majuro and Utrik for the DOE patient population last year). This program is aimed at promoting good nutrition and its consequences in the DOE/PHRI Special Medical Care Program population in the RMI. The intervention took a series of existing nutrition education modules and modified them as needed to meet the specific needs of the program's population. (For more details, see Section VIII.)

IV. Program Administration and Physicians

The DOE/PHRI Special Medical Care Program's staff, based in Honolulu, Hawaii, includes a principal investigator (PI), a Co-PI, three co-investigators, a program coordinator, a computer systems analyst, a statistician/evaluator, and a program assistant. The staff in RMI consists of two MO's and two nurse coordinators (one set each on Majuro and Kwajalein). Other program staff includes various residents and faculty members of the University of Hawaii John A. Burns School of Medicine Department of Family Practice Residency Program (UHJABSOM DFPRP) (exhibit 2).

In order to provide continuity of care to the DOE patient population and clinic oversight for the RMI staff, the administrative staff and physicians based in Hawaii have visited RMI on 14 different occasions from July 15, 2000, through July 14, 2001. These visits include:

- Five (5) visits by Dr. Neal A. Palafox, Principal Investigator: September 2000, March 2001, April 2001, May 2001, and July 2001;
- Two (2) visits by Dr. Henry N. Preston, Co-Principal Investigator: November 2000 and March 2001;
- Four (4) visits by Dr. Wilfred Alik, Co-Investigator: July 2000, October 2000, February 2001, and May 2001;
- One (1) visit by Dr. Jill Minami, Co-Investigator: September 2000;
- One (1) visit by Lola Colombe, Program Coordinator: September 2000.
- One (1) visit by Chris Welsh, Computer Systems Analyst: September 2000.

Also, of particular note during this year, one of the Residents, Dr. Sheldon Riklon, M.D., the second U.S. trained Marshallese physician (after Dr. Alik, who is a co-investigator), rotated to the RMI two times. Upon graduation, he will be working for the program on a full-time basis as Director of Clinical Operations. Furthermore, seven (7) UHJABSOM DFPRP faculty and residents have also chosen to repeat their rotations over the course of the year. These repeat

rotations by the faculty and residents help the program provide continuity of care for the DOE patient population.

Bechtel Nevada Corporation (BN) (under DOE contract) continues to provide the logistical support to the medical program. Logistical support involves all transport, housing, and accommodation arrangements for staff and patients traveling between RMI and Honolulu, Hawaii, or beyond. BN has been instrumental in providing PHRI with the necessary infrastructure; i.e., trailers, vehicles, and travel support, for the program to operate. Furthermore, BN is also involved in providing the program's patients with logistical support for tertiary care, when deemed necessary, via a subcontract with Straub Clinic & Hospital, Inc.

V. Program Activities

The DOE/PHRI Special Medical Care Program, created for the benefit of the DOE patient population, provides year-round, onsite medical care to the DOE patients residing in the RMI and annual examinations to those DOE patients living in Hawaii and in the continental U.S. During this year, the program provided the following medical and health-related services:

- Provided annual medical examinations (exhibit 1);
- Provided preventive health care; i.e., nutrition counseling, nutrition education intervention;
- Provided additional medical care personnel for the outpatient clinics on Ebeye and Majuro;
- Made home visits to patients who are physically unable to visit the clinic;
- Completed the nutrition education intervention program to the patient population on Ebeye and Mejjatto;
- Continued diabetic support groups on Ebeye;
- Coordinated with Kwajalein Hospital for ancillary services, such as laboratories, radiology, and pharmacy;
- Made quarterly trips to Mejjatto and Utrik (exhibit 3) to see patients residing on those atolls;
- Coordinated with other health care programs and facilities in the RMI, such as the RMI MOHE; 177 HCP; and Ebeye, Majuro, and Kwajalein Hospitals; i.e., diabetes project on Ebeye;
- Coordinated visits by an endocrinologist to the Majuro and Kwajalein Clinics (1 week at each site);
- Conducted a quality assurance visit by the flexible sigmoidoscopy trainer to the Majuro and Kwajalein clinics;
- Made referrals to Ebeye, Majuro, and Kwajalein Hospitals, and Straub Clinic & Hospital, Inc., when necessary;
- Made modifications to the program's formulary for patients residing in the RMI; and
- Provided CME's for program staff and RMI health care workers (exhibit 4).

In addition to the above, the program was also involved in the following activities:

- Conducted community meetings with patients residing in the RMI, Hawaii, and the continental U.S.;
- Conducted a half-day, cross-cultural training program for residents and faculty;

- Participated in the RMI/DOE meetings conducted in Honolulu;
- Met with DOE in Honolulu to discuss plans for program Year 4;
- Continued to develop the program's secure website to meet the program's changing needs;
- Completed the quality assurance program with regards to a formal medical record audit;
- Finalized the Year 3 Gentlemen's Agreement between DOE and PHRI;
- Met with DOE and BN to develop an operating plan for Year 3 of the program;
- Developed a subcontract with the University of Hawaii for Dr. Riklon for Year 4;
- Assisted the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) in conducting surveys and collecting data during the cholera outbreak on Ebeye;
- Began initial implementation of the program's EMR system;
- Held discussions with potential collaborators to expand the program's telehealth capabilities;
- Held meetings with the RMI government officials and local Atoll government officials;
- Held meetings with the 177 Health Care Program and developed a draft Memorandum of Understanding (MOU); and
- Continued to coordinate with local high schools on the Health Care Opportunities Program (HCOP).

VI. Clinics

Two clinics were established for the program in January 1999, one on Kwajalein and the second on Majuro.⁴ Each of the program's clinics is currently staffed with one full-time MO and one half-time nurse coordinator, all of whom are Marshallese-speaking and sensitive towards the culture in the Marshall Islands. In addition to the clinics on Kwajalein and Majuro, the resident and faculty physicians also continue to see DOE patients in the outpatient/specialty clinics in Majuro and Ebeye approximately 2-3 half days per week and other non-DOE patients as time and resources permit (see exhibit 1).

Since the commencement of the program, UHJABSOM faculty physicians have been rotating to the Marshall Islands for a 2-week duration each month. In addition, residents with the UHJABSOM DFPRP have been rotating to the Marshall Islands for a 1-month duration. Both rotations further assist with health care delivery and capacity building in the Marshall Islands. While this 1-month assignment to RMI may be difficult, the majority has felt it to be a very good learning experience. In fact, a number of residents and faculty have opted to do repeat rotations.

We are continuing to look at potential barriers to care and ways to encourage more patient visits to the DOE/PHRI clinics located on Kwajalein and Majuro. More patients are making repeat visits to the clinic for ongoing care and medication refills, as they become more accustomed to clinic personnel and operations. Efforts are being made to encourage needed followup visits to the clinics.

⁴ Encounters may vary depending on whether the medical officers are on vacation, out of the office due to illnesses, on professional leave, on Mejjatto/Utrik trips, conducting specialty clinics, or whether Marshallese speaking residents and faculty are present.

1. Kwajalein Operations

The Kwajalein Clinic, located in a trailer behind Kwajalein Hospital, is staffed with one MO, Dr. Tom Jack; and one nurse coordinator, Bonnita Paul Patrick. The clinic is open from 1-3 p.m. (Tuesday through Saturday) to see the DOE patient population, but is staffed until 4:30 p.m. Between 3-4:30 p.m., the staff works on completing and copying chart notes, filing and copying lab reports, making appointments for ancillary services at Kwajalein Hospital, and writing/completing the necessary reports. Often, the MO, who lives on Kwajalein, will work at the clinic before making rounds on Ebeye in order to coordinate with the program coordinator in Honolulu, Hawaii.

During the fourth quarter, the program was faced with the inability to have mammograms and thyroid ultrasounds completed due to the absence of a certified radiology technician at Kwajalein Hospital. The new technician arrived in late June, but will not be certified to conduct mammograms until July or August.

2. Majuro Operations

The Majuro Clinic is located in a trailer behind Majuro Hospital. The clinic is open from 1-3 p.m. (Monday) and 10 a.m.-12 p.m. (Tuesday through Friday) to see the DOE patient population. The office is staffed from 9 a.m. on Tuesday through Friday and until 4 p.m. on Monday so that administrative work can be completed; i.e., copying chart notes, filing, and copying lab reports, making appointments for ancillary services at Majuro or Kwajalein Hospitals, and writing/completing the necessary reports.

The Majuro clinic continues to have staffing problems. The nurse has been out due to medical reasons since mid-June. In addition, the MO continues to be pulled between his work for the RMI Ministry of Health and Environment and his work for the DOE program. The program is working with the Ministry to ensure that the MO is available during DOE/PHRI clinic hours, but oftentimes conflicts arise. While a resolution to this problem has not yet been determined, the program is working with the MO and the Ministry to resolve the problem. Dr. Riklon will be working full-time for the program in the RMI beginning in August and will be spending 3 weeks on Majuro and 1 week on Kwajalein per month. His presence in the RMI, especially on Majuro, should ensure that the clinic will be open to see patients during the posted hours of operation.

3. Hawaii Operations

The program and Bechtel coordinated efforts again this year to contact the patients residing in the continental U.S. to complete their annual examinations. All of the patients contacted have either completed their examinations or are scheduled to be seen by the end of August 2001.

The program continues to look for ways to complete the patients' annual examinations in the geographic area where they reside. For patients who reside in Maui, laboratory tests can now be done onsite via a contract with Clinical Laboratories. In addition, the program worked with one patient's physician in the continental U.S. to have thyroid surgery done there rather than have the patient fly to Honolulu for treatment.

For those patients who reside in Hawaii, we continue to see them at the Physicians Center in Mililani or at Straub Clinic & Hospital for their annual examinations.

VII. Specialists

1. Endocrinologist

In November 2000 and in April and May 2001, Dr. Kryston, an endocrinologist from Straub Clinic & Hospital, spent 1 week at each DOE/PHRI clinic in the RMI. He conducted thyroid palpations, took biopsies as needed, presented a continuing medical education talk, conducted thyroid ultrasounds, conducted fine needle aspirations, provided consultations for non-DOE patients, and provided the expertise to make sure the MO's had the proper and appropriate technique for thyroid palpations. In April and May 2001, Dr. Kryston visited the Kwajalein and Majuro clinics for 1 week, respectively. During the April trip to Kwajalein, he took a portable ultrasound machine (loaner from company) to evaluate its effectiveness in the RMI. The patients, as well as the MO's, were very impressed with the machine's capabilities and image quality. Dr. Kryston conducted a number of ultrasounds in order to show the patients their thyroid nodules. An ultrasound machine has since been purchased for each of the clinics. The machines will enable the clinics to take ultrasound images and send them via the web for reading in Honolulu. The portability of these machines will allow the physicians to take them on trips to Utrik and Mejatto, as well as to homebound patients.

2. Nutritionists

For the third year, Dr. Carucci, a cultural anthropologist, and Ms. Maifeld, a nutritionist, flew to the Marshall Islands in July 2001 for a period of 1 month. Dr. Carucci and Ms. Maifeld are a husband and wife team that has extensive experience with nutrition in the RMI. Dr. Carucci is fluent in Marshallese (both verbal and written) and both have lived in Enewetak and Ujelang for several years. They have worked on and off in the RMI since 1980. (A detailed report will be submitted to DOE in September.) The Carucci-Maifeld team has made recommendations for diet and exercise for the DOE patient population as a whole, as well as individually for those needing special care. With their annual visits, they have now been able to monitor the patients' success in meeting life-style changes. They have prepared nutrition education materials in Marshallese for ongoing use in the DOE/PHRI clinics. These materials have also been shared with the MOHE for general use in the RMI.

3. Flexible Sigmoidoscopy Trainer

In December 2000, the flexible sigmoidoscopy trainer, Ted Tokumine, went to both Majuro and Kwajalein in order to conduct quality assurance of clinical procedures and equipment. He also made a trip to Kwajalein in April 2001 to assist the MO with patients who were coming from Mejatto to complete their annual examinations. Mr. Tokumine originally trained the MO's in performing flexible sigmoidoscopy and makes bi-annual visits to provide additional training and clinical assistance.

VIII. Thyroid Examinations

Currently, thyroid ultrasounds are conducted on a yearly basis on the DOE patient population. Thyroid palpations, to date, have been conducted by an endocrinologist, the program's faculty, MO's, and residents with the faculty physicians and the endocrinologist providing the necessary supervision on the proper and appropriate technique.

IX. Other Health Services

One of the goals of the program, as time and resources allow, is to assist the local communities in strengthening their health care system. It would be fruitless to develop programs that the community felt was unimportant and which would be unsustainable once the DOE program ends; i.e., the Nutrition Education Intervention Program is one such program that is targeted to the DOE patient population, but is also beneficial to the patient's whole family. Thus, the DOE/PHRI Special Medical Care Program has made concerted efforts to involve the community in these programs.

The program has also made great efforts to improve the education and training of the local physicians by attending daily hospital rounds and by providing bi-monthly CME talks for the hospital staff. The rounds and CME lectures allow the health care providers in the Marshall Islands to keep abreast of new advances in medicine. Faculty and residents also assist at the outpatient clinics at Ebeye and Majuro Hospitals at least twice per week during their rotations and take call with the MO's at least once per week. The program's involvement also provides the local health community (i.e., the public health sector) with much needed extra manpower and the benefits of being attached to an academic institution, which usually brings with it a higher standard for practicing evidence-based, patient-centered medicine.

1. Continuing Medical Education

In order to further the education of the RMI program staff, the program has continued to provide them with medical textbooks, medical journals, online referencing capabilities, and safety training videos. The program also continues to provide the RMI staff and collaborating physicians at the 177 Health Care Program, Kwajalein and Ebeye Hospitals, medical updates and resources via e-mail and the web.

In addition, the program's PI's, faculty, and residents routinely make CME presentations each time they have visited the Marshall Islands (exhibit 4). These presentations are given not only to the RMI physicians and staff, but also to other interested health care workers in the RMI. They were held at Kwajalein Hospital, Ebeye Hospital, and Majuro Hospital and were well received.

Also, when possible, the RMI staff is given the opportunity to attend lectures and seminars on special interest topics that relate to the program.

Through the mentoring and teaching provided by the program's investigators and other UHJABSOM faculty during their rotation to the Marshall Islands, the medical updates via the

Internet, seminars, and conferences, the program hopes to increase the clinical acumen of the MO's and nurse coordinators.

2. Household Nutrition Intervention Program

This intervention program is aimed at promoting good nutrition and its consequences in the DOE/PHRI patient population in the RMI. The nutritionists took a series of nutrition education modules, which were used on Majuro and Utrik, and applied them on Mejatto and Ebeye (see exhibit 5 for a detailed report).

3. Public Health Sector

In addition to caring for the DOE patient population, the DOE/PHRI Special Medical Care Program has also been working to contribute to the overall health system in RMI. The program's efforts to make a greater impact begin with the DOE patient population. The program has extended the scope of service beyond caring and screening for radiogenic illnesses to include primary care for the DOE patients residing in the RMI. The MO's and doctors at the two clinics treat acute and chronic illnesses in the DOE patients residing in the Marshall Islands as time and resources permit, in addition to addressing their health care maintenance needs as recommended by U.S. preventive health task force guidelines. The program has also integrated nutrition education into its services, which utilize native foods and customs as a part of this teaching.

Given the limited number of patients, the clinic is only open for half of each day. The UHJABSOM family practice residents and faculty, as well as the MO's, spend the remainder of the time in the outpatient clinics at Ebeye and Majuro Hospitals. The residents and faculty also work with various public health projects. The doctors see an average of 10-12 patients per half day working in various outpatient clinics, which include general medicine, prenatal, sexually transmitted diseases, diabetes, and pediatric clinics.

On Majuro, the residents and faculty met with Mr. Donald Capelle (Secretary for Primary Health Care) and the vice-principals and teachers of the public high schools regarding their HCOP for students interested in health and health careers. There are currently about 30 interested students per class level. To assist HCOP, a survey was created and sent by the residents to all 9th and 12th grade students (450 total) to assess their interests, needs, and goals. In addition, the residents drafted the mission statement and the goals and objectives for HCOP. The faculty will assist with strengthening the curriculum of HCOP and for the residents to play a key role in giving the lectures and coordinating activities. The residents and faculty are also helping to coordinate other health professionals to assist with the program. Dr. Riklon, who will be taking on the faculty role in Year 4, is very interested in getting a premedical society started for local high school students interested in health careers. He has been meeting with the scholarship committees and with the school counselors to coordinate this project.

Several lectures were also given during this year to the high school students on topics such as chewing tobacco and sexually transmitted disease (STD) prevention. The residents and faculty

continue to work within the public health department assisting with ongoing projects, including immunization programs, STD education, nutrition, UNICEF surveys, and diabetes education. They have participated in home visits to assess the patient's nutritional status and to deliver food, take measurements, and deliver medications. Others have participated in improving patient education materials and in developing better ways to deliver education to the community.

On Ebeye, the residents and faculty have been assisting Ebeye Hospital with their diabetes project; the first diabetes focus groups were held in September 2000. Valuable information was gained at that meeting, which will assist in the future progress of the diabetes project. A diabetic support group was also started. Some of the ideas that came out of the focus group include having the rotating UHJABSOM resident/faculty:

- Attend the support group on a monthly basis to serve as a resource person to answer questions regarding diabetes;
- Give talks about diabetes to the support group and general population;
- Implement a group walking and exercise program; and
- Develop markers around Ebeye to mark 1/2 mile and 1-mile areas so patients know how far they have walked.

The residents and faculty spent a great deal of time during the later half of 2000 assisting Ebeye Hospital with the cholera epidemic. In addition to treating patients in the outpatient clinics and the hospital, they assisted with the door-to-door vaccination program and in the WHO investigations, as well as the CDC in their survey.

X. Community Relations

The involvement of the DOE patient community, as well as their community leaders; i.e., local atoll council members, mayors and senators, is an integral part of the program. Without the input of the DOE patient population, the program administration would not be able to identify the needs of the community relative to the program and meet the community's needs within the bounds of the congressional mandate. It is with this in mind that the program has established the community advisory groups, whose members have an opportunity to voice their concerns regarding health-related issues, to offer program input and to learn more about the program in general. However, it is also important to keep abreast of the larger, political, economic, and social issues in the RMI; hence, meetings with the Government leaders (both RMI and U.S.), health care professionals, etc., are also necessary.

During this year, Drs. Palafox and Preston conducted quarterly Community Advisory Group (CAG) meetings and community meetings. These meetings helped to clarify the program's goals and procedures. We continue our efforts to improve communication with the patients and local leaders.

1. Community Advisory Groups (CAG)/Community Meetings

The CAG members, as well as the general patient population, had an opportunity to voice their concerns regarding health-related issues, to offer program input, and to learn more about the program in general during meetings held in September 2000 and April 2001 with Dr. Neal Palafox, in November 2000 with Dr. Henry N. Preston, in March 2001 with Dr. Neal Palafox and Dr. Henry Preston. Some of the issues/concerns that were raised are listed below:

- More medical coverage, including coverage for their children;
- A thyroid specialist on each visit, more specifically, Dr. Kryston;
- Three (3) visits per year to the island by the program;
- Two (2) visits for each patient to Kwajalein each year (as occurred with the pre-PHRI program conducted by Brookhaven National Laboratory);
- Better explanations of changes in medication and better supply of medications;
- Include visits by more specialists; i.e., dentists and ophthalmologists;
- Felt the nutritionists to be quite helpful; and
- Pleased with the MO and the existence of the local facility.

Answers to issues were as follows:

- Medical coverage for children is currently not available via this program.
- The MO's, residents, and faculty conduct thyroid palpations and determine if there are any abnormalities. Dr. Kryston will be making regular visits to the clinics to see patients and follow up on any abnormalities found. The program attempts to make four (4) visits per year to Mejjatto and Utrik; however, weather and other factors may prevent this from happening.
- The current program differs from the past in that examinations and procedures that can be done on island are completed and only those that cannot be done would require a trip to Kwajalein.
- The program will begin dispensing a 6-month supply of certain medications so that patients do not run out, and a more concerted effort will be made to better explain any changes to medications. The program has also begun to send out summary letters and copies of examination results to each patient upon completion of their annual examination.
- The program has held discussions with the 177 HCP to see if we can collaborate on providing other caregivers in the RMI.

Community meetings with patients who reside in the continental U.S. and Honolulu were conducted in May and June. Some of the issues raised were:

- Medication refills were not being received.
- Why can't nonradiation-related problems be treated by the program?
- Can annual examinations be done on the mainland versus in Hawaii?
- Can the program provide more than one annual examination per year for mainland patients?
- Please let the U.S. Government know that the problems in the RMI stem from a disruption of the ocean living and life due to atomic testing in the waters of the RMI.
- One patient asked why he had not been asked to come in for an annual examination.

With regards to the issue of not receiving medication refills, after further discussion with the patient who had brought this up, the program found that the patient had moved and left no forwarding address. Hence, the patient was not getting medication refills. We have since corrected this problem. With regards to the issue of treating nonradiation-related problems in Hawaii, Dr. Palafox explained that the program does not have a clinic in Honolulu that is set up to treat these problems, and we would assume that those patients residing outside of the RMI would have access to other health care providers/programs that are not available in the RMI.

With regards to annual examinations, Dr. Palafox explained that only one complete physical can be conducted per year; and should a patient choose to have it done in the continental U.S. with his/her own personal care physician, that can be done, and to please let us know. As for the other issue, Dr. Palafox stated the program would inform DOE.

The patient who asked about receiving an annual examination had apparently last been seen in March 1962 and was not on the patient roster that the program received from Brookhaven National Laboratory. It appears that this patient left the Marshall Islands in the 1960's and relocated several times in different countries. This patient will be contacted and asked to come in for an annual examination, as he is eligible to receive services.

Besides conducting community meetings with the patient population, over the past year the program administration has had discussions with the following people to discuss various issues that will or could impact the program's ability to deliver medical care (in alphabetical order):

- Sandy Alfred, Hospital Administrator (Majuro Hospital)
- Mr. Sam Bellu (Businessman)
- Donald Capelle, Secretary for Primary Health Care (MOHE - Majuro)
- Minister Tony DeBrum (Finance)
- Dr. Jill Horner, Family Practice (Kwajalein Hospital)
- Deborah Atwood, CFO, 177 HCP (Majuro)
- Minister Alvin Jacklick (Minister of Foreign Affairs)
- Dr. Masao Korean, Chief of Staff (Majuro Hospital)
- Justina Langidrik (Assistant Secretary for Primary Health Care, Ministry of Health and Environment)
- Minister Tadashi Lometo (MOHE)
- Dr. Eric Lindborg, Family Practice (Kwajalein Hospital)
- Senator Abacca Anjain Maddison (Rongelap Atoll Local Government)
- Secretary Marie Maddison (Secretary of Foreign Affairs)
- Mayor James Matayoshi (Rongelap)
- Minister Philip Muller (Former Minister of Foreign Affairs)
- Robert Muller, Project Manager (ADB Ebeye Health and Infrastructure Project)
- Irene Paul (Assistant Secretary for Primary Health Care – Ebeye)
- Ambassador Joan Plaisted (U.S. Embassy – Majuro)
- Senator Johnsay Riklon (Rongelap)
- Mayor Joe Saul (Utrik)

- Dr. Tin Soe, Medical Director - Primary Health Care Services (Ebeye Hospital)
- Tina Stege (RMI Foreign Affairs Officer)
- Senator Hiroshi Yamamura (Utrik)

A few of the issues that arose from these discussions are: (1) The need for coverage for illnesses while in Hawaii and the continental U.S. beyond radiation-related diseases; (2) The need to keep communication lines open between the DOE patient population, their leaders, and the DOE/PHRI Special Medical Care Program.

XI. Medical Records

One of the fundamental goals of the program is to provide innovative health care to the mandated population to improve health status. One means for reaching this goal is the introduction of an EMR system that allows for real time access to medical information by practitioners in the Marshall Islands and in Hawaii. Real time access means that decisions can be made with the latest information. The EMR will help us to improve the quality of care since the same patient information will be available at each clinical site. This is especially important in the RMI where we have a very mobile population.

A final selection of the EMR system was made after review by the MO's, the RMI Program staff, and administrators. The program is also cooperating with the 177 Program in the implementation of the EMR system to facilitate continuity of care between the two programs for patients who are beneficiaries of both.

Six workstations have been set up and the process of collecting and loading user information, system access control information, and passwords has been completed. In addition to the setup of access control information (user names, security levels, and passwords), setup of other portions of the EMR is being performed, concurrently. The fundamental method for putting information into the EMR is through the use of "templates." Stock templates for a number of EMR functions are provided by PMSI, but require customization by the user. The computer system analyst and the program coordinator began the process of template customization. The templates currently being customized are:

- Health Maintenance templates;
- Note templates;
- Social History templates;
- Family History templates; and
- Past Medical History templates.

Customization of these templates is a multidisciplinary task that involves medical expertise, organizational expertise, and technical expertise. As such, the template modifications are ongoing with continuing refinement. Customization of the remaining medical templates will be started early in July.

Essential to the success of the EMR system is the training and collaboration of all interested parties; i.e., the template development activities included discussions with the 177 Program concerning its needs. A major focus of the EMR effort is continuity of care for the target population – this was discussed with the 177 Program in reference to how the EMR system would be used. The training session for the EMR has been scheduled for September 10–13, 2001, in Honolulu. All medical staff from the RMI, as well as two representatives from the 177, will be present.

XII. Telehealth

In order to facilitate telehealth capabilities, the computer analyst has been pursuing broadband options in the RMI. The ongoing discussion for broadband Internet access on Kwajalein is close to achieving its goal of providing real time access via ISDN. The communications support personnel on Kwajalein have stated that the Kwajalein clinic should be connected by early August. Broadband connectivity for Majuro has also been under continuing investigation. Although options are limited, some possibilities exist for high-speed connectivity – possibly in the more distant future (~2 years). Satellite communication appears to be the most promising, but the cost is still somewhat prohibitive.

The computer analyst has also been reviewing the possibility of providing mobile communication to the atolls. The possibility of mobile satellite connectivity shows potential for supplying health care remotely while allowing access to medical records, as well as diagnostic capabilities.

The computer systems analyst continues to monitor and make revisions to both the public and secure website, which can be found at: www.phri-doe.org. The program's connections through the telehealth associations and the National Library of Medicine allow the program to receive and send important, up-to-date health information to the RMI staff, as well as to other medical centers in the RMI. This provides an ongoing source of continuing medical education for the RMI health professionals.

Co-Investigator Vicki Shambaugh met with Dr. Lloyd Aiello of the Joslin Vision Network to discuss potential methods for providing vision screening for the DOE patient population. This has been an ongoing request of the patients. As approximately 40 percent of the DOE patient population is diabetic, there is a risk of diabetic retinopathy, which can lead to blindness in this population. There is currently no ophthalmologist in the RMI, creating further problems in this area.

XIII. Agreements

During the year, the modification to PHRI's subcontract with Kaiser Permanente for Dr. Alik's time and effort on the project for Year 3 was completed. The subcontract with Johns Hopkins University for the household nutrition intervention program to be conducted on Ebeye and Mejjatto was finalized. The subcontract with the Carucci/Maifeld Team for work in Year 3 was completed. The subcontract with the University of Hawaii for Dr. Riklon was initiated.

XIV. Quality Assurance

The UHJABSOM residents are conducting a medical record audit during their rotation by examining 20 charts per clinic site per month. Each chart is thoroughly examined based upon a checklist, and if certain portions are incomplete, they are completed. The need for more efficient and effective followup has been identified, especially with respect to abnormal labs and annual examination completion. The EMR system as noted above will help meet this need. In addition, a full-time physician (Dr. Riklon) will be employed as Director of Clinical Operations to oversee clinic operations in the RMI, which should also assist with better patient followup, as well as administrative followup of issues that arise.

Mr. Tokumine, the flexible sigmoidoscopy trainer, visited Kwajalein Clinic to conduct a quality assurance check on the staff and the equipment. He also assisted the MO with patients from Mejatto who were brought in for completion of their annual examinations.

The program continues to administer patient satisfaction forms. There has, however, been some difficulty in getting the forms completed. To date, approximately 31 forms have been received for the year. Oftentimes, either the patient refuses to complete the form or the staff forgets to hand out the form. We will work to correct this during the next year with the Director of Clinical Operations' assistance.

XV. Future Plans

The program will continue to have two clinics in the RMI; however, there is a possibility of the Kwajalein clinic moving to Ebeye once the new Ebeye Hospital is operational. A number of issues will need to be resolved before the move takes place; i.e., 24-hour water and electricity; space issues, etc.; and discussions between the DOE/PHRI administrative staff, Ebeye Hospital, the MOHE, DOE, and BN will be ongoing.

In Year 4 the program will hire Dr. Riklon, the second U.S. trained Marshallese physician, to oversee the day-to-day operations of the clinics in the RMI. His title will be Co-Investigator/Director of Clinical Operations. He will be based in Majuro, but fly to Kwajalein on a monthly basis for a 1-week duration, make quarterly trips to Mejatto and Utrik, and travel to Honolulu as needed. He will also provide health education to the DOE population, as well as interact more with the community and collaborators. To continue our efforts to build the health infrastructure in the RMI, Dr. Riklon will assist with calls on a rotation basis at Majuro Hospital and work 2–3 half days at the MOHE clinics as time permits. Dr. Riklon will oversee the UHJABSOM residents and RMI clinic staff. He will be responsible for the overall operations of the clinics, including assisting in operational planning; patient care; and supervision of the program's physicians, staff, and consultants in the RMI. He will be the chief RMI contact for the program.

This position will not only provide the clinics and the RMI physicians and staff with more direct clinic oversight and feedback, but will also provide the program with greater continuity of care.

Dr. Riklon will be hired under a subcontract with the University of Hawaii (UH) John A. Burns School of Medicine, Department of Family Practice and Community Health. This will permit

him to supervise the UH residents and allow him both academic and clinical credentials. He will be full-time on the program.

Consultants will be sent to complement ongoing medical care, as needed based on clinic findings. Dr. Kryston will be making annual visits to the RMI to do quality assessment in thyroid and diabetes care with the medical staff, as well as update them on advances in diagnosis and care in those areas.

As described above, implementation of the EMR system will be a major push in year 4.

XVI. Acknowledgments

The program would not have been possible without the enormous amount of time, effort, support, cooperation, and patience of so many individuals and organizations. Their efforts were above and beyond the call of duty. We would like to especially thank RMI Government officials and community leaders; U.S. DOE; physicians and staff from UHJABSOM DFPRP; Wahiawa General Hospital; Straub Clinic & Hospital, Inc.; Kaiser Permanente; Ebeye Hospital; Majuro Hospital; Bechtel Nevada; Dr. Carucci; Ms. Maifeld; Johns Hopkins University; and the tireless efforts of the program's MO's and nurse coordinators. Most importantly, we would like to thank the patients who have voluntarily come to the clinics to be seen. We must all remember that it is for them and because of them that the program exists.

XVII. Exhibits

Exhibit 1

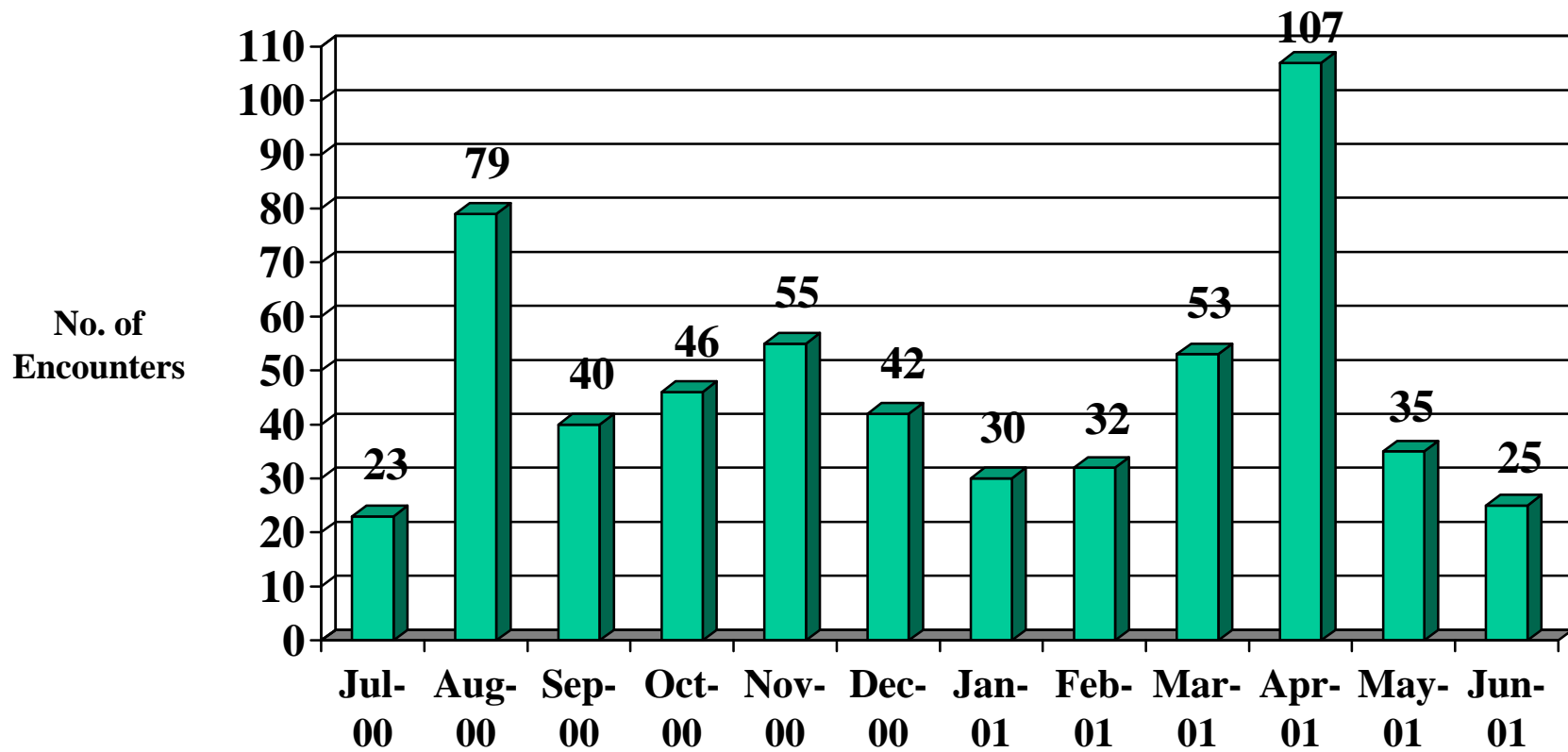
Patient Statistics for July 1, 2000 – June 30, 2001 (1)

Location	DOE Patient Encounters (2)	Non-DOE Patient Encounters (3)	Deaths	Referrals to Hawaii	Annual Examinations (4)
Ebeye	29	944	1	4	-
Kwajalein	567	-	-	-	55 (37)
Majuro	342	1,957	4	7	61 (41)
Mejatto	23	71	0	5	25 (17)
Utrik	36	26	3	1	15 (13)
Honolulu	66	-	1	9	16 (16)
CONUS	45	-	0	5	13 (13)
Total	1,108	2,998	9	31	185 (137)

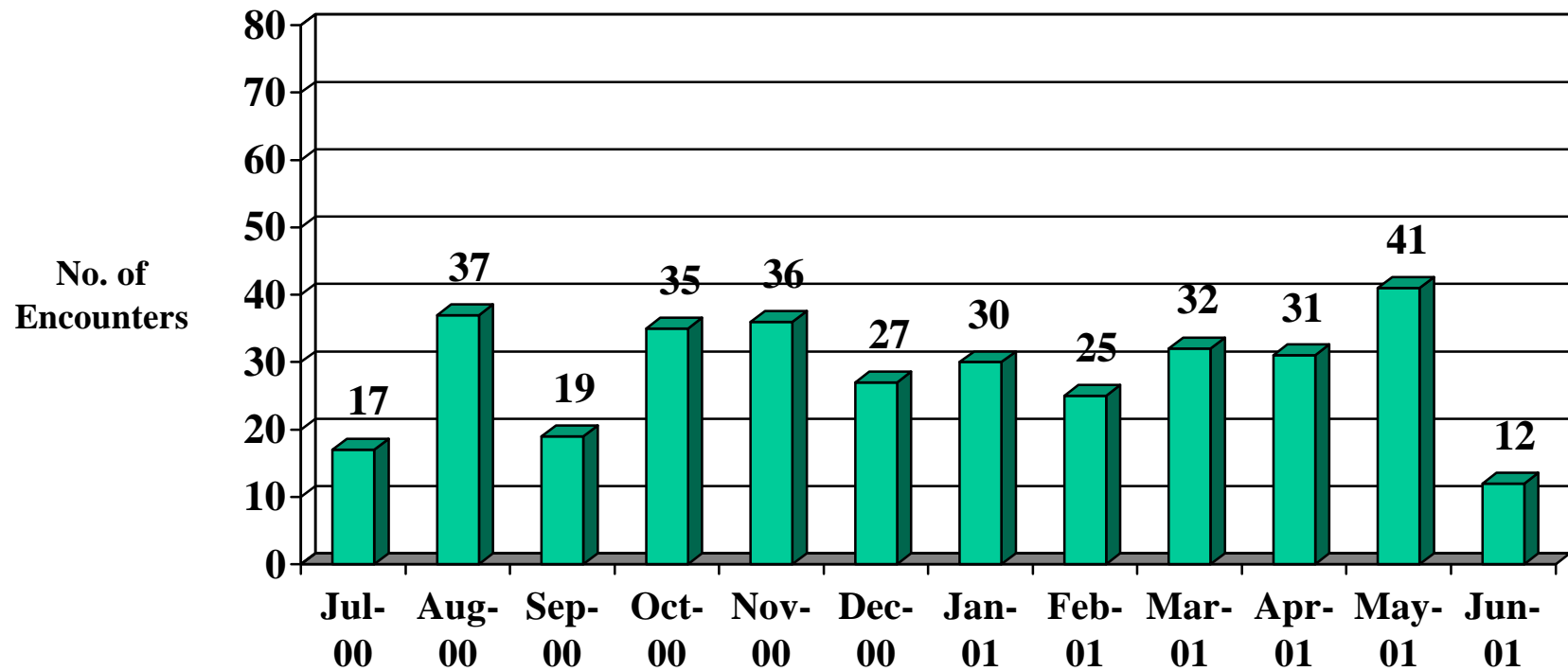
Note:

- (1) Statistics: from July 1, 2000, through June 30, 2001.
- (2) Encounters: Total # of DOE patients who came to the clinic on any given day for medication refills, annual examinations, sick visits, laboratory tests, procedures, and followups. Kwajalein encounters include visits for medical procedures that could not be conducted at Majuro, Mejatto, or Utrik clinics.
- (3) Total # of non-DOE patients seen at outpatient clinics at Ebeye and Majuro Hospitals and on trips to Mejatto and Utrik by the MO's, residents, and faculty. MO's figures for Majuro for April, May, and June based on 10 patients per day, 3 days per week.
- (4) Number of annual examinations that were begun. The number in () indicates how many annuals were fully completed during this period.

DOE Patient Encounters – Kwajalein Clinic



DOE Patient Encounters - Majuro Clinic



Non-DOE Patient Encounters

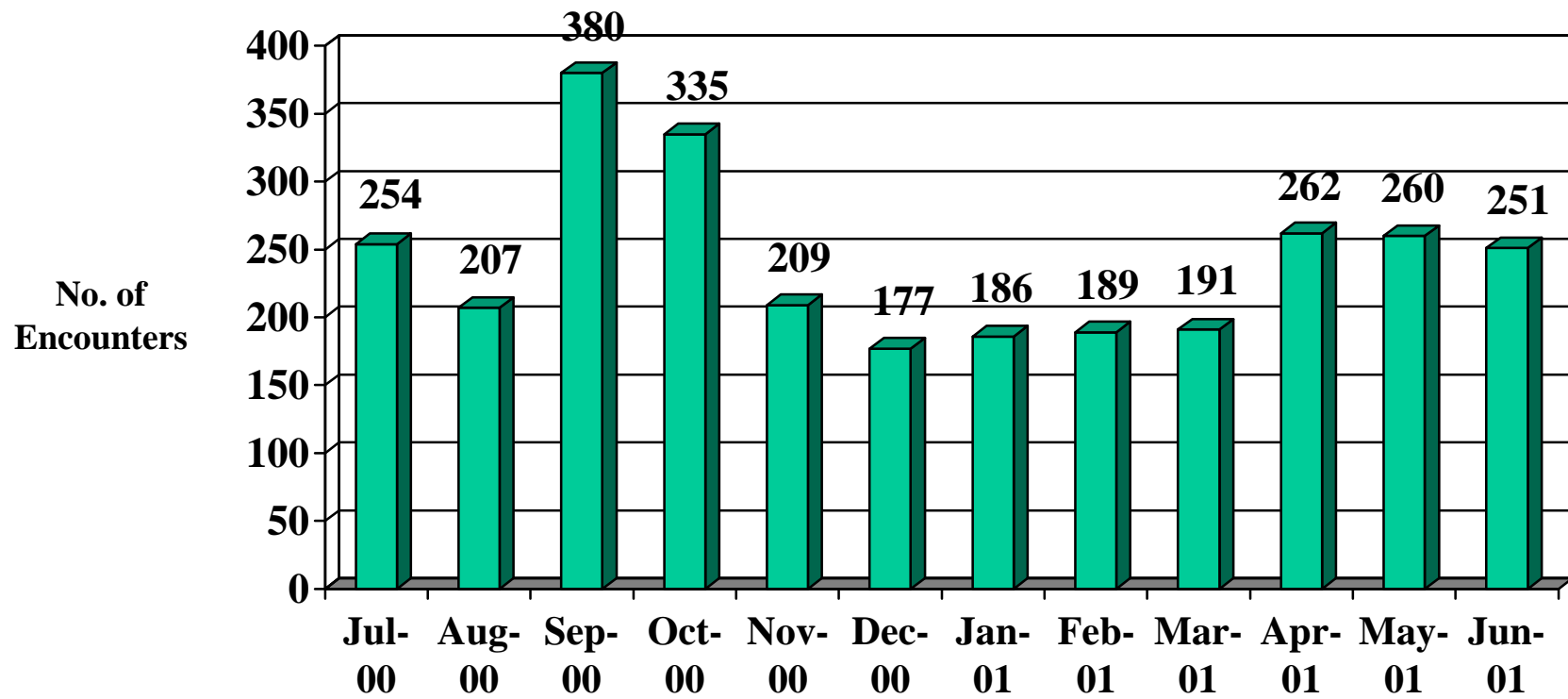


Exhibit 2

July '00 – June '01 Rotation Schedule

I. Faculty

Jun. 30 – Jul. 14, 00	Seiji Yamada, MD	Jan. 12 – Jan. 26, 01	Momi Ka'anoi, MD
Jul. 28 – Aug. 11	Wilfred Alik, MD	Feb. 9 – Feb. 23	Wilfred Alik, MD
Aug. 25 – Sep. 8	Momi Ka'anoi, MD	Mar. 9 – Mar. 16	Alan Ou, MD
Sep. 25 – Sep. 29	Jill Minami, MD	Mar. 16 – Mar. 23	Henry N. Preston, MD
Sep. 29 – Oct. 6	Momi Ka'anoi, MD	Apr. 6 – Apr. 20	Momi Ka'anoi, MD
Oct. 20 – Nov. 3	Wilfred Alik, MD	May 4 – May 18	Wilfred Alik, MD
Nov. 17 – Dec. 1	Lee Buenconsejo, MD	Jun. 1 – Jun. 15	Tai Ho Chen, MD
Dec. 8 – Dec. 22	Alan Ou, MD	Jun. 29 – Jul. 13	Alan Ou, MD

II. Residents

Jun. 28 – Jul. 21, 00	Sheldon Riklon, MD	Jan. 5 – Feb. 5, 01	Sheldon Riklon, MD
Aug. 21 – Sep. 18	Melanie Arakaki, MD	Feb. 2 – Mar. 5	Charles Whitehill, MD
Sep. 15 – Oct. 16	Damon Lee, MD	Mar. 2 – Apr. 2	Brian Diamond, MD
Oct. 13 – Nov. 13	Nathan Tan, MD	Mar. 30 – Apr. 27	Owen Nishikawa, MD
Nov. 10 – Dec. 8	Vanessa Wong, MD	Oct. 12 – Nov. 9	Charles Whitehill, MD
Dec. 13 – Jan. 8, 01	Donald Hayes, MD	Apr. 30 – May 28	Wes Palmer, MD
		May 25 – Jun. 22	Kazu Hernandez, MD

Exhibit 3

Mejatto and Utrik Trips

<u>DATE</u>	<u>ATOLL</u>	<u>PHYSICIANS/STAFF*</u>	<u>PATIENTS SEEN</u>
August 2000	<i>Utrik</i>	Cancelled: AMI unable to fly	
September 2000	<i>Mejatto</i>	Tom Jack, MO Damon Lee, MD	DOE 12 Non-DOE 42
October 2000	Utrik	Zach Zachraias, MO Wilfred Alik, MD Nathan Tan, MD Hemiko Bingham, NC	DOE 13 Non-DOE 13
December 2000	<i>Mejatto</i>	Tom Jack, MO Alan Ou, MD	DOE 5 Non-DOE 15
January 2001	Utrik	Zach Zachraias, MO Momi Ka'anoi, MD Sheldon Riklon, MD Hemiko Bingham, NC	DOE 12 Non-DOE 8
April 2001	<i>Utrik</i>	Neal Palafox, MD Zach Zachraias, MO Hemiko Bingham, NC	DOE 11 Non-DOE 4
May 2001	<i>Utrik</i>	Cancelled: AMI unable to fly	
June 2001	Mejatto	Tom Jack, MO Tai Ho-Chen, MD Kazu Hernandez, MD Bonnita Paul Patrick, NC	DOE 6 Non-DOE 14

NOTE: MO = Medical Officer; NC = Nurse Coordinator

Exhibit 4
Continuing Medical Education

DATE	PRESENTER	PLACE	TOPIC
July 2000	Sheldon Riklon, MD	Ebeye & Majuro Hospitals	Hansen's Disease
August 2000	Wilfred Alik, MD (Faculty) Momi Ka'anoi, MD (Faculty) Melanie Arakaki, MD (Resident)	DOE Clinics Ebeye and Majuro Hospitals Ebeye and Majuro Hospitals	Health Care Maintenance Stress Management Cholera Update
September 2000	Damon Lee, MD (Resident)	Ebeye and Majuro Hospitals	Syphilis Update
October 2000	Damon Lee, MD (Resident) Nathan Tan, MD (Resident)	Majuro Hospital Ebeye and Majuro Hospitals	Syphilis Penicillin Resistant Streptococcus
November 2000	Lee Buenconsejo, MD (Faculty) Vanessa Wong, MD (Resident)	Ebeye and Majuro Hospitals Ebeye and Majuro Hospitals	Chronic Renal Failure Acute Otitis Media
December 2000	Leonard Kryston, MD (Consultant - Endocrinologist) Alan Ou, MD (Faculty) Donald Hayes, MD (Resident)	Kwajalein Hospital DOE Clinics Majuro Hospital Ebeye Hospital	Diabetes Update, Thyroid Carcinoma & Hyperthyroidism Thyroid Carcinoma & Thyrotoxicosis Common Childhood Malignancies Stroke
January 2001	Sheldon Riklon, MD (Resident)	Ebeye & Majuro Hospitals	Cholera Update

February 2001	Charles Whitehill, MD (Resident)	Ebeye & Majuro Hospitals	EKG Interpretation
March 2001	Neal A. Palafox, MD (Faculty) Brian Diamond, MD (Resident)	Majuro Hospital Ebeye & Majuro Hospitals	Tobacco-Related Illnesses Hyperlipidemia Update
April 2001	Owen Nishikawa, MD (Resident)	Ebeye Hospital Majuro Hospital	Mental Health ETOH and Adolescence & Failure to Thrive
May 2001	Leonard Kryston, MD (Endocrinologist)	Majuro Hospital	Thyroid Surveillance in at Risk Marshallese: Goiter, Nodules, Cysts & Cancer
June 2001	Tai Ho Chen, MD (Faculty) and Kazu Hernandez, MD (Resident)	Ebeye Hospital	Chronic Obstructive Pulmonary Disease

Exhibit 5

Implementation and Evaluation of a Nutrition Education Intervention to Promote Good Nutrition in the DOE/PHRI Special Medical Care Program Population in the Republic of the Marshall Islands

ANNUAL REPORT--July 1, 2000 - June 30, 2001

Prepared by
Heather Haberle, MHS
Joel Gittelsohn, PhD

Month	Work Accomplished
July 2000	<ul style="list-style-type: none">• Completion of Intervention Implementation in Majuro• Gittelsohn and Haberle meet with Utrik Mayor re: healthier food provisions through FEMA
August 2000	<ul style="list-style-type: none">• RMI MOHE Home-based Family Nutrition Education Training (Majuro)• Review and revision suggestions for materials by 30 Marshallese health and education specialists• Training of 21 Marshallese health and education specialists in the use of the home visit family nutrition education materials
September 2000	<ul style="list-style-type: none">• Final revision of graphics and text for home visit materials• Meetings at PHRI to discuss project evaluation to date and future implementation in the Ebeye and Mejatto communities (Haberle and Gittelsohn, separate meetings)
October 2000	<ul style="list-style-type: none">• Printing of Final Intervention Materials
November 2000	<ul style="list-style-type: none">• Preparation for Ebeye/Mejatto Implementation• Haberle to Ebeye• Meeting with KAHCB• Recruitment of CHW's• Meetings with Store Owners for Store-based reinforcement component
December 2000	<ul style="list-style-type: none">• Preparation for Interventionist Training on Ebeye (Gittelsohn and Haberle)

January 2001	<ul style="list-style-type: none"> • Community Health Worker Training • Introductory visit to patient households, consent forms completed
February 2001	<ul style="list-style-type: none"> • Data collection completed with voluntary patient families • Data entry begins • Bwebwenato visit series begins • Planning for store-based healthy foods demonstrations with store managers • Ongoing interventionist training
March 2001	<ul style="list-style-type: none"> • Bwebwenato visit series completed with all participating families • In-store cooking demonstration of low-fat pancakes at Triple J • In-store cooking demonstration featuring pork and beans at Sunrise • Planning for Mejatto project delivery • Survey of Mejatto stores regarding healthy food choices available in Mejatto conducted by Bonita • Haberle and Colombe met to review progress • Haberle and Gittelsohn met to review data and plan data analysis
April 2001	<ul style="list-style-type: none"> • Data Entry continues • Data Collection in Mejatto
May 2001	<ul style="list-style-type: none"> • Intervention delivery in Mejatto • Post Intervention Evaluation Data Collection on Ebeye • Closing of RMI operations • Exit meetings with MOHE, Majuro, discussion of future use of Home Visit Series and future store intervention work • Exit meeting with PHRI • Data Entry • Data Analysis Begins at JHU (Gittelsohn and Haberle) • Training manual contents finalized
June 2001	<ul style="list-style-type: none"> • Report writing continues • Training manual production continues • Presentation to PHRI completed

Overview

This second annual report marks the completion of the household nutrition intervention education series with the DOE/PHRI Special Medical Care Program population. We are pleased with the overwhelming interest participating families showed in the project and the effectiveness of the design as documented in the post intervention data analysis.

The 2000-2001 period focused on delivering the household nutrition intervention education series to the Ebeye and Mejjatto DOE patient population, and developing store-based reinforcements for the key messages of the home-visit series. Thirty (30) patient households and 35 patients successfully completed the program on Ebeye and Mejjatto. Anthropometric, Individual Monthly Food Frequency, and Knowledge/Attitudes/Beliefs baseline data were collected with 70 respondents. Thirty-two (32) Ebeye baseline respondents who participated in the intervention completed post-intervention data collection.

Analysis of the baseline and post-intervention data confirms the effectiveness of the intervention approach and design. An overview of the analysis shows that there is an increased use of cooking spray and tuna in water. A decrease in Marshallese pancake consumption was documented, which can be a significant contributor of saturated fat to the diet. An increased knowledge of low-fat cooking methods is indicated. An increased understanding of being overweight, which can be prevented by eating less fat, is a high risk factor for diabetes. This leads us to believe that the home-visit storyboard intervention design is culturally appropriate and effective. Please see the Final Project Report for detailed analysis of the findings.

The store-based reinforcement efforts were implemented in two stores on Ebeye and with one store on Mejjatto. Triple-J, an Ebeye store, reported increased sales of cooking spray and fat-free evaporated milk after a cooking demonstration and reinforcement materials were set up in their store. Store-based Healthy Food Promotion efforts, based on the Ebeye and Mejjatto experiences, will be the basis for two new activities: a Center For Livable Future and RMI MOHE collaborative intervention trial in Majuro that started in July 2001.

Collaboration with the Kwajalein Atoll Health Care Bureau proved to be a successful partnership and provided an avenue for sustainable prevention and education efforts through this program.

Future Directions

Following the success of this project, several future directions should be considered:

1. Continue to reinforce chronic disease prevention messages.
2. Continue to collaborate with MOHE for community development and sustainable prevention efforts.

3. Develop additional home-based, family-centered approaches for communicating relevant health education messages for this population, such as:
 - Radiation-related health concerns (identification and maintenance);
 - Diabetic care (diet, foot/sore care, medication compliance, etc.); and
 - Exercise.
4. Develop health education strategies specifically targeting men and teen boys, such as:
 - Diet;
 - Exercise; and
 - Prevention of chronic disease.
5. Work with local governments and the USDA to adjust the FEMA Food supply to support healthy food decision-making.

Acknowledgments

We would like to thank the families who participated in the home-visit nutrition education series for their support and interest in this program. Their enthusiasm was an excellent source of motivation for the intervention team.

The RMI MOHE and KAHCB provided informational and logistical support necessary to successfully complete the project, and we are grateful for their assistance.

The Bechtel Nevada staff was always at the ready to transport materials or personnel, coordinate travel plans, and locate patients. Many thanks for their unending efforts.

Last, but certainly not least, we would like to thank DOE and PHRI for encouraging the development and implementation of this project, and providing insight to the needs of this patient population.